

AMENDMENTS TO THE CLAIMS

1 1. (Currently amended) A balancing vertical load device for a motor, to be used in
2 combination with a vertical driving device with controlled force and positioning, comprising:

3 a motor assembly comprising a motor, and a load weight which, driven by said
4 motor, performs a vertical movement; and

5 a sealed air pressure system comprising an air cylinder, a piston gliding inside said
6 air cylinder with low friction and being connected with said load weight, an air container
7 with an air volume such that with a piston velocity of up to 2 m/s, a pressure differential
8 created by movement of said piston during operation of said device is less than 3 percent,
9 and an air pressure source to supply sufficient pressure to initiate operation;

10 wherein said sealed air pressure system balances a load of said load weight, so that
11 precise control of force and position of a vertically moving object, as if moving horizontally,
12 is achieved.

1 2. (Original) The balancing vertical load device for a motor according to claim 1,
2 wherein said motor assembly has a feeding system for vertical position and force control.

1 3. (Original) The balancing vertical load device for a motor according to claim 1,
2 wherein a valve is inserted between said air pressure source and said air container for
3 adjusting air pressure in said air container to modify balancing force.

1 4. (Currently amended) The balancing vertical load device for a motor according to
2 claim 1, wherein said motor assembly and said sealed air pressure system are mounted

- 3 on a frame, with space within said frame being used for said air container to minimize
4 space requirements for the system.

5. (Canceled)